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TITLE: Anti-Inflammatory Cytokine IL-10 and Mammary Gland Development

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## **Introduction**

The award aims to determine the relationship between anti-inflammatory IL-10 and mammary gland development. To achieve the goal, we proposed to compare mammary glands from wildtype and IL-10 knock out female mice at different stages of development: d 21, 55, 80 and 150 of age and 2 days after giving birth.

## **Body**

There are two major tasks: to breed and raise wildtype and IL-10 knockout female mice by mating IL-10 heterozygous female with IL-10 heterozygous male; to develop essential techniques for mammary gland analysis so that we can compare mammary glands at the age of interest.

Task 1: animal breeding. University at Buffalo lab animal specific pathogen-free facility (where the experimental mice are housed) was going through major renovation in the summer/fall of 2006, and then major reorganization of animal care in Feb-May of 2007. Since then, we have started the intensive breeding required for the project. Of the 110 female mice that are needed for various life stages in the study, we now have 20 and they are being raised in the facility. Breeding and PCR genotyping are carried on actively to generate the rest experimental mice.

Task 2: mammary gland comparison. We have established all the techniques that are needed for mammary gland analysis in our lab including whole mount preparation and the preparation of paraffin sections of mammary glands. As soon as the experimental mice reach the desired age (varies from 21 day to 150 day), we can collect and analyze their mammary glands.

## **Key Research Accomplishments**

Successful on-going mouse breeding and the establishment of techniques for mammary gland comparison.

## **Reportable Outcomes**

None due to the short duration of the award and the animal facility issues that we faced during most part of this year.

## **Conclusion**

All technical issues relating to task 1 and task 2 have been resolved. We are ready to collect and analyze mammary glands as soon as mice reach the desired age.

## **References**

None

## **Appendices**

None